August 18, 2017 Docket No. PROJ0769

U.S. Nuclear Regulatory Commission
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SUBJECT: NuScale Power, LLC Submittal of NuScale Power, LLC Critical Heat Flux (CHF), TR-0116-21012, Revision 0, Topical Report Update

REFERENCES:
1. NuScale Power, LLC, Submittal of "NuScale Power Critical Heat Flux Correlation NSP2", TR-0116-21012, dated October 5, 2016 (ML16279A363)
2. NuScale Power, LLC Submittal of Response to NRC Request for Supplemental Information to TR-0116-21012, dated December 29, 2016 (ML17003A004)

As discussed during a telephone call with Mr. Bruce Bavol and Mr. Tim Drzewiecki of the NRC staff, NuScale Power, LLC (NuScale) intends to revise the CHF Topical Report, TR-0116-21012, (Reference 1, as supplemented by Reference 2), to add a new Critical Heat Flux (CHF) correlation designated NSP4. The additional NSP4 correlation is based solely on results of testing conducted at the AREVA KATHY test facility in Germany, utilizing the NuFuel-HTP2™ design, and will be applied to the upper fuel regions containing the HTP spacer grids. NuScale notes that the KATHY data was already included in Revision 0 of the CHF topical report currently under review. The NSP2 correlation provided in Revision 0 of the CHF topical report will be retained and applied in the first span of the fuel region containing the HMP spacer grid.

A revision to the CHF Topical Report to include the additional NSP4 correlation is beneficial because it represents the design of fuel product included within the NuScale design certification application (DCA). The NSP2 correlation is based on an early prototype tested at the Stern Laboratory and while acceptable for the DCA, its use results in a more conservative evaluation of CHF with respect to the fuel design. Implementation of the NSP4 correlation in the limiting Chapter 15 events will demonstrate the margin inherent in the NuFuel-HTP2™ product.

NuScale anticipates submitting Revision 1 to TR-0116-21012, along with conforming changes (markups) to the Design Certification Application (DCA), for staff review by the end of October, 2017. The conforming changes expected for the DCA and related topical reports consist of the following:

- Update FSAR Sections 4.4 and 15.0 to include reference to and use of NSP4, including non-LOCA CHF results in Chapter 15 to reflect the use of the additional CHF correlation. NuScale expects the CHF margin to improve for these events.
- Minor update to Non-LOCA Analysis Methodology Topical Report TR-0516-49416, Revision 0 to revise example CHF calculations based on the additional CHF correlation.
- Minor Update to Rod Ejection Analysis Methodology Topical Report TR-0716-50350, Revision 0 to reflect use of the additional CHF correlation.
- Update Subchannel Analysis Methodology Topical Report TR-0915-17564, Revision 1 to include the additional CHF correlation and revise example CHF calculations.

If you have any questions on this response, please contact Darrell Gardner at 980-349-4829 at dgardner@nuscalepower.com.

Sincerely,

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